# EXHIBIT P

#### U.S. Patent No. 9,838,213 ("the '213 Patent") Exemplary Infringement Chart

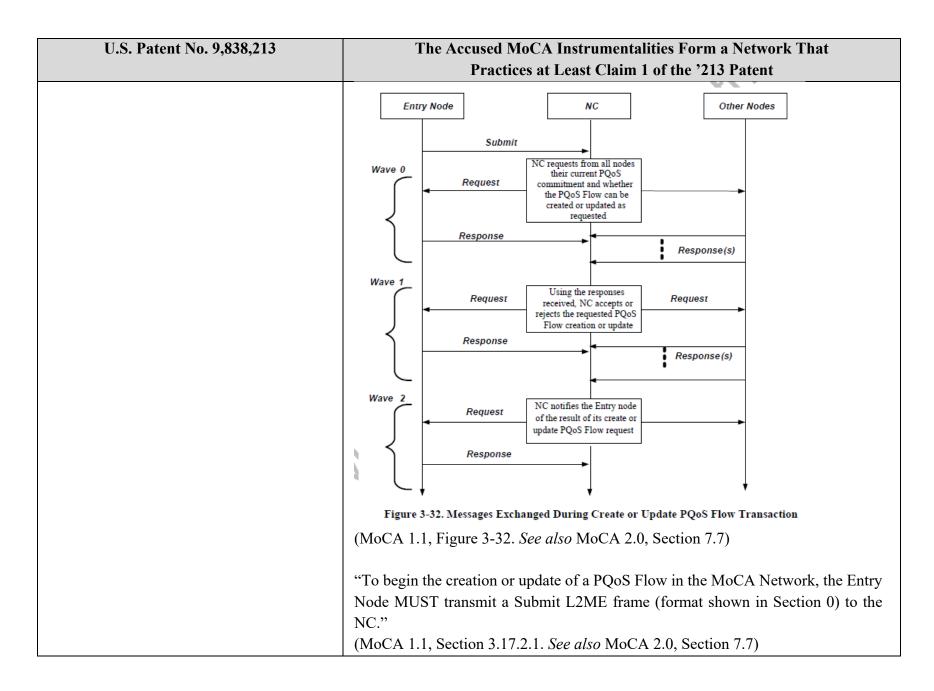
The Accused MoCA Instrumentalities are instrumentalities that DirecTV deploys to provide a whole-premises DVR network over an on-premises coaxial cable network, with devices operating with data connections compliant with MoCA 1.0, 1.1, and/or 2.0. The Accused MoCA Instrumentalities include the DirecTV HR24, DirecTV HR34, DirecTV HR44, DirecTV HR54, DirecTV HR517, DirecTV C31, DirecTV C41, DirecTV C51, DirecTV C61, DirecTV C61K and substantially similar instrumentalities. DirecTV literally and/or under the doctrine of equivalents infringes the claims of the '213 Patent under 35 U.S.C. § 271(a) by using the Accused MoCA Instrumentalities.

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	Practices at Least Claim 1 of the '213 Patent
1. A communication method implemented in	The Accused Services are provided using at least the Accused MoCA
a Network Coordinator (NC) node of a	Instrumentalities including gateway devices (including, but not limited to, the
communication network of a premises, the	DirecTV HR24, DirecTV HR34, DirecTV HR44, DirecTV HR54, DirecTV HS17,
method comprising:	and devices that operate in a similar matter) and client devices (including, but not
	limited to, the DirecTV C31, DirecTV C41, DirecTV C51, DirecTV C61, DirecTV
	C61K, and devices that operate in a similar manner), and substantially similar
	instrumentalities. The Accused MoCA Instrumentalities operate to form a
	communication network of a premises over an on-premises coaxial cable network
	as described below.
	The DirecTV full-premises DVR network constitutes a communication network of
	a premises as claimed. The DirecTV full-premises DVR network is a MoCA
	network created between gateway devices and client devices using the on-premises
	coaxial cable network. This MoCA network is compliant with MoCA 1.0, 1.1,
	and/or 2.0.
	"The MoCA system network model creates a coax network which supports
	communications between a convergence layer in one MoCA node to the

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	corresponding convergence layer in another MoCA node."
	(MoCA 1.1, Section 1.1. See also MoCA 2.0, Section 1.2.2)
	"The MoCA Network transmits high speed multimedia data over the in-home coaxial cable infrastructure."
	(MoCA 1.1, Section 2. See also MoCA 2.0, Section 5)
	"Network Coordinator (NC) – A MoCA node that performs the following salient functions in a MoCA Network: Beacon generation, MAP generation, admission of new MoCA nodes to the network, privacy key generation and distribution, and LMO scheduling."  (MoCA 1.1, Section 1.2. See also MoCA 2.0, Section 3)
	DirecTV utilizes the MoCA standard to provide an on-premises DVR network over an on-premises coaxial cable network as shown below:

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	DIRECTV SWM13-LNB  Your installation may vary depending on the number of splitters needed Always use the smallest number of splitters.
	Replace external SWM with 1x2 splitter if needed. If not replacing external SWM, run straight to 1x8 splitter.  Line from power inserter to red port on all splitters.  Total number of tuners cannot exceed 13. Genie = 5 tuners (seek) Seel (seek) Seel (seek) Seel (seek) Seek Seel (seek) Seek Seek Seek Seek) Seek Seek Seek
broadcasting to a plurality of nodes of the	The Accused MoCA Instrumentalities operate to broadcast to a plurality of nodes
network, a request for a guaranteed quality of	of the network, a request for a guaranteed quality of service flow in the network
service flow in the network from a source	from a source node to at least one egress node, the plurality of nodes of the network
node to at least one egress node, the plurality	to which the NC node broadcasts the request including at least the source node and
of nodes of the network to which the NC node	the at least one egress node as described below.

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broadcasts the request including at least the	
source node and the at least one egress node;	For example, by virtue of their compliance with MoCA, the Accused MoCA Instrumentalities include circuitry and/or associated software modules that broadcast to a plurality of nodes of the network, a request for a guaranteed quality of service flow in the network from a source node to at least one egress node, the plurality of nodes of the network to which the NC node broadcasts the request including at least the source node and the at least one egress node.
	"This specification defines L2ME Transactions used for admission control and management of MoCA PQoS Flows. Any L2ME-capable node can start a PQoS Transaction in the MoCA Network. The NC Node is responsible for admitting the PQoS Flow to the MoCA Network by first requesting present resource utilization information from all other Nodes. If there are sufficient resources to admit the flow, the NC Node then guarantees availability of sufficient transmission opportunities to the flow. If there are insufficient resources, the NC Node will deny the requested flow and supply additional information about remaining resources."  (MoCA 1.1, Section 3.17.1. See also MoCA 2.0, Section 7.7)
	"The purpose of the Create or Update Flow Transactions is to create a new PQoS Flow or update attributes of an existing PQoS Flow. Example use of Update Flow Transaction includes changing Flow attributes in response to starting/stopping trick mode play and changing Flow attributes in response to changes in available MoCA Network bandwidth. Any Node can attempt to create or update any PQoS Flow." (MoCA 1.1, Section 3.17.2. <i>See also</i> MoCA 2.0, Section 7.7)



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	See also MoCA 1.1, Table 3-45; MoCA 2.0, Section 7.7.
	"Wave 0 informs all the Nodes about the proposed PQoS Flow Creation or Update operation, and collects information about current flow allocations from the Nodes." (MoCA 1.1, Section 3.17.2.2. <i>See also</i> MoCA 2.0, Section 7.7)
	"The NC Node initiates Wave 0 using a Request L2ME Frame with format as shown in Section 3.15.2.3.2 and based on the Submit shown in Table 3-45." (MoCA 1.1, Section 3.17.2.2.1. <i>See also</i> MoCA 2.0, Section 7.7)
	"Ingress Node – A MoCA node into which PQoS Flow traffic enters a MoCA Network."
	(MoCA 1.1, Section 1.2. See also MoCA 2.0, Section 3)
	"Egress Node – A MoCA node from which parameterized QoS flow traffic exits a MoCA Network."  (MoCA 1.1, Section 1.2. <i>See also</i> MoCA 2.0, Section 3)
	"A PQoS Flow can be transmitted from one Ingress Node to either a single Egress Node or to multiple Egress Nodes. Note that PQoS Flows with multiple Egress Nodes are transmitted using the Ingress Node"s GCD PHY Profile. The Egress Node ID MUST be set to 0x3F for a PQoS Flow transmitted using GCD PHY profile."
	(MoCA 1.1, Section 3.17.1. See also MoCA 2.0, Section 7.7)
receiving a first response to the request from	The Accused MoCA Instrumentalities operate to receive a first response to the
the source node, wherein the source node is	request from the source node, wherein the source node is the point of origin for the

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the point of origin for the purposes of the guaranteed quality of service flow for data to be communicated within the guaranteed quality of service flow, the first response indicating whether the source node has	purposes of the guaranteed quality of service flow for data to be communicated within the guaranteed quality of service flow, the first response indicating whether the source node has available resources to support the guaranteed quality of service flow as described below.
available resources to support the guaranteed quality of service flow;	For example, by virtue of their compliance with MoCA, the Accused MoCA Instrumentalities include circuitry and/or associated software modules that receive a first response to the request from the source node, wherein the source node is the point of origin for the purposes of the guaranteed quality of service flow for data to be communicated within the guaranteed quality of service flow, the first response indicating whether the source node has available resources to support the guaranteed quality of service flow.
	"In Wave 0, each Node MUST respond to the NC Node with an L2ME Response Frame, indicating the summed up costs of existing PQoS Flows. The Response L2ME Frame for Create PQoS Flow/Update Flow Transaction MUST follow the format specified in Section 3.15.2.3.2."  (MoCA 1.1, Section 3.17.2.2.2. See also MoCA 2.0, Section 7.7)
	"Each requested Node MUST calculate the Response L2ME Frame's payload parameters as follows:  1. Calculate the EXISTING_STPS value which is the sum of CoF for all the existing PQoS Flows excluding the new or updated PQoS Flow in which the Node is an Ingress Node. The contribution of each PQoS Flow is CoF and is calculated using Eq. (1) in Section 3.17.2.6.  2. Calculate the EXISTING_TXPS value for all the existing PQoS Flows excluding the new or updated PQoS Flow. It is the sum of the COST_TXPS for each PQoS

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	Flow for which this is the Ingress Node.  3. Calculate the COST_STPTX parameter as the CoF of the new or updated PQoS Flow in multiple of SLOT_TIMES/PQoS Flow transmission according to Eq. (1).  4. If there are Ingress Node or Egress Node limits on the PQoS Flow throughput, calculates the remaining Node capacity in kilobits/second (REM_NODE_CAPACITY) as defined in Table 3-46."  (MoCA 1.1, Section 3.17.2.2.2. See also MoCA 2.0, Section 7.7)
	"Each requested Node MUST issue a RESPONSE_CODE where the list of acceptable values is shown in Table 3-47. If a Node selects multiple RESPONSE_CODEs for rejection of a Create/Update Flow request, the decision regarding which RESPONSE_CODE value to include from among all selected RESPONSE_CODEs in the WAVE 0 L2ME Response message MUST be the numerically highest RESPONSE_CODE. If a Node is able to fulfill the NC Node request, it MUST issue a RESPONSE_CODE 0x1 or 0x2 as applicable."  (MoCA 1.1, Section 3.17.2.2.2. See also MoCA 2.0, Section 7.7)
	See also MoCA 1.1, Table 3-46, Table 3-47; MoCA 2.0, Section 7.7.
	"Ingress Node – A MoCA node into which PQoS Flow traffic enters a MoCA Network."
	(MoCA 1.1, Section 1.2. See also MoCA 2.0, Section 3)
receiving a second response to the request from the at least one egress node indicating whether the at least one egress node has available resources to support the guaranteed	The Accused MoCA Instrumentalities operate to receive a second response to the request from the at least one egress node indicating whether the at least one egress node has available resources to support the guaranteed quality of service flow as described below.
quality of service flow; and	

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	For example, by virtue of their compliance with MoCA, the Accused MoCA Instrumentalities include circuitry and/or associated software modules that receive a second response to the request from the at least one egress node indicating whether the at least one egress node has available resources to support the guaranteed quality of service flow.
	"Each requested Node MUST issue a RESPONSE_CODE where the list of acceptable values is shown in Table 3-47. If a Node selects multiple RESPONSE_CODEs for rejection of a Create/Update Flow request, the decision regarding which RESPONSE_CODE value to include from among all selected RESPONSE_CODEs in the WAVE 0 L2ME Response message MUST be the numerically highest RESPONSE_CODE. If a Node is able to fulfill the NC Node request, it MUST issue a RESPONSE_CODE 0x1 or 0x2 as applicable."  (MoCA 1.1, Section 3.17.2.2.2. See also MoCA 2.0, Section 7.7)
	"Egress Node – A MoCA node from which parameterized QoS flow traffic exits a MoCA Network."  (MoCA 1.1, Section 1.2. <i>See also</i> MoCA 2.0, Section 3)
	"This specification defines L2ME Transactions used for admission control and management of MoCA PQoS Flows. Any L2ME-capable node can start a PQoS Transaction in the MoCA Network. The NC Node is responsible for admitting the PQoS Flow to the MoCA Network by first requesting present resource utilization information from all other Nodes. If there are sufficient resources to admit the flow, the NC Node then guarantees availability of sufficient transmission opportunities to the flow. If there are insufficient resources, the NC Node will deny the requested flow and supply additional information about remaining resources."

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	(MoCA 1.1, Section 3.17.1. See also MoCA 2.0, Section 7.7)
if the source node and the at least one egress node have available resources to support the guaranteed quality of service flow, then allocating resources for the guaranteed quality of service flow;	The Accused MoCA Instrumentalities operate to allocate resources for the guaranteed quality of service flow if the source node and the at least one egress node have available resources to support the guaranteed quality of service flow as described below.
	For example, by virtue of their compliance with MoCA, the Accused MoCA Instrumentalities include circuitry and/or associated software modules that allocate resources for the guaranteed quality of service flow if the source node and the at least one egress node have available resources to support the guaranteed quality of service flow.
	"In Wave 1, the NC Node MUST inform the Nodes about the decision on the PQoS Flow Creation or Update request. Before the NC Node can send the Request L2ME Frame of Wave 1, it needs to determine the outcome of the Create PQoS Flow or Update PQoS Flow transaction and values of other fields of the Request message." (MoCA 1.1, Section 3.17.2.3. <i>See also</i> MoCA 2.0, Section 7.7)
	"The NC Node MUST send the Request L2ME Frame for Wave 1 using the format shown in Section 3.15.2.3.2."  (MoCA 1.1, Section 3.17.2.3.1. <i>See also</i> MoCA 2.0, Section 7.7)
	"The DECISION field provides the outcome, as determined by the NC, of the Create or Update PQoS Flow request from the Entry Node. Table 3-49 shows meanings for all possible values of this field defined in this MoCA specification." (MoCA 1.1, Section 3.17.2.3.1. <i>See also</i> MoCA 2.0, Section 7.7)

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	"The NC Node MUST evaluate the following bandwidth-related criteria before
	permitting a PQoS Flow creation or update:
	1. Summed up STPS - the sum of EXISTING_STPS and the product of
	COST_XTPS and COST_STPTX values from all L2ME-capable nodes.
	2. Summed up TXPS - the sum of EXISTING_TXPS and COST_TXPS values
	from all L2ME-capable nodes."
	(MoCA 1.1, Section 3.17.2.3.1. See also MoCA 2.0, Section 7.7)
	"The NC Node MUST admit or update the PQoS Flow if all of the following
	conditions are satisfied:
	1. The Summed up STPS is less or equal to QOS_STPS (see Table 3-51)
	2. The Summed up TXPS is less or equal to QOS_TXPS (see Table 3-51).
	3. The Ingress Node has sent RESPONSE_CODE = 0x1 and
	REM_NODE_CAPACITY greater than or equal to T_PEAK_DATA_RATE.  4. All Egress Nodes have sent RESPONSE CODE = 0x2 and
	REM NODE CAPACITY greater than or equal to T PEAK DATA RATE.
	5. All Egress Nodes have sent RESPONSE_CODE = 0x2 and REM_BURST_SIZE
	greater than or equal to T BURST SIZE."
	(MoCA 1.1, Section 3.17.2.3.1. See also MoCA 2.0, Section 7.7)
	(MOCA 1.1, Section 3.17.2.3.1. See also MocA 2.0, Section 7.7)
	"The NC Node MUST send the decision to allow Flow creation or update in a
	Request L2ME Frame with DECISION = DECISION SUCCESS to the
	participating Nodes in Wave 1 to commit the requested resources."
	(MoCA 1.1, Section 3.17.2.3.1. <i>See also</i> MoCA 2.0, Section 7.7)
	"Upon receiving a Request L2ME Frame indicating a successful Create or Update
	PQoS Flow operation in Wave 1, the Ingress Node and Egress Nodes for the PQoS

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	Flow MUST commit the requested resources."
	(MoCA 1.1, Section 3.17.2.3.2. See also MoCA 2.0, Section 7.7)
if the source node and the at least one egress	The Accused MoCA Instrumentalities operate to determine if the source node and
node do not have available resources to	the at least one egress node do not have available resources to support the
support the guaranteed quality of service	guaranteed quality of service flow as described below.
flow, then:	
	For example, by virtue of their compliance with MoCA, the Accused MoCA Instrumentalities include circuitry and/or associated software modules that determine if the source node and the at least one egress node do not have available resources to support the guaranteed quality of service flow.
	"The DECISION field provides the outcome, as determined by the NC, of the Create or Update PQoS Flow request from the Entry Node. Table 3-49 shows meanings for all possible values of this field defined in this MoCA specification." (MoCA 1.1, Section 3.17.2.3.1. <i>See also</i> MoCA 2.0, Section 7.7)
	"The NC Node MUST evaluate the following bandwidth-related criteria before permitting a PQoS Flow creation or update:
	1. Summed up STPS - the sum of EXISTING_STPS and the product of
	COST_XTPS and COST_STPTX values from all L2ME-capable nodes.  2. Summed up TXPS - the sum of EXISTING TXPS and COST TXPS values
	from all L2ME-capable nodes."
	(MoCA 1.1, Section 3.17.2.3.1. See also MoCA 2.0, Section 7.7)
	"From the allowed RESPONSE_CODE values shown in Table 3-47, if any Node returns one of the RESPONSE_CODEs listed in the first column of Table 3-50, then the Request L2ME Frame for Wave 1 MUST contains the corresponding

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	DECISION shown in Table 3-50. If Nodes return more than one RESPONSE_CODE values shown in Table 3-47, then the NC may choose a DECISION value shown in Table 3-50 corresponding to any of the returned RESPONSE_CODE values."  (MoCA 1.1, Section 3.17.2.3.1. See also MoCA 2.0, Section 7.7)
	"If the rejection of Create or Update request is due to a non-bandwidth related reason listed in Table 3-50, the NC Node MUST send a Request L2ME Frame by using the appropriate value in the DECISION field to the participating Nodes in Wave 1."  (MoCA 1.1, Section 3.17.2.3.1. See also MoCA 2.0, Section 7.7)
	"If any one of the bandwidth-related criteria fails, then the NC Node MUST calculate the MAX_PEAK_DATA_RATE value in the payload of the Request frame, which is the maximum allowable PQoS Flow T_PEAK_DATA_RATE that would have succeeded given T_PACKET_SIZE."  (MoCA 1.1, Section 3.17.2.3.1. See also MoCA 2.0, Section 7.7)
	See also MoCA 1.1, Table 3-50; MoCA 2.0, Section 7.7.
denying the guaranteed quality of service flow; and	The Accused MoCA Instrumentalities operate to deny the guaranteed quality of service flow as described below.
	For example, by virtue of their compliance with MoCA, the Accused MoCA Instrumentalities include circuitry and/or associated software modules that deny the guaranteed quality of service flow.
	"If one or more of the above five conditions are not satisfied, the NC Node MUST

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	deny the Create or Update Flow request."
	(MoCA 1.1, Section 3.17.2.3.1. See also MoCA 2.0, Section 7.7)
	"If the rejection of Create or Update request is due to a non-bandwidth related
	reason listed in Table 3-50, the NC Node MUST send a Request L2ME Frame by
	using the appropriate value in the DECISION field to the participating Nodes in
	Wave 1."
	(MoCA 1.1, Section 3.17.2.3.1. See also MoCA 2.0, Section 7.7)
	"In Wave 1, the NC Node MUST inform the Nodes about the decision on the PQoS
	Flow Creation or Update request. Before the NC Node can send the Request L2ME
	Frame of Wave 1, it needs to determine the outcome of the Create PQoS Flow or
	Update PQoS Flow transaction and values of other fields of the Request message."
	(MoCA 1.1, Section 3.17.2.3. See also MoCA 2.0, Section 7.7)
if the guaranteed quality of service flow is	The Accused MoCA Instrumentalities operate to determine a maximum data rate
denied based on bandwidth-related reasons,	that would have resulted in a successful request for a guaranteed quality of service
then determining a maximum data rate that	flow and transmit a message comprising information describing the maximum data
would have resulted in a successful request	rate that would have resulted in a successful request for a guaranteed quality of
for a guaranteed quality of service flow, and	service flow if the guaranteed quality of service flow is denied based on bandwidth-
transmitting a message comprising	related reasons as described below.
information describing the maximum data	
rate that would have resulted in a successful	For example, by virtue of their compliance with MoCA, the Accused MoCA
request for a guaranteed quality of service	Instrumentalities include circuitry and/or associated software modules that
flow.	determine a maximum data rate that would have resulted in a successful request for
	a guaranteed quality of service flow and transmit a message comprising information
	describing the maximum data rate that would have resulted in a successful request
	for a guaranteed quality of service flow if the guaranteed quality of service flow is

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	denied based on bandwidth-related reasons.
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	"The NC Node MUST send the Request L2ME Frame for Wave 1 using the format
	shown in Section 3.15.2.3.2."
	(MoCA 1.1, Section 3.17.2.3.1. <i>See also</i> MoCA 2.0, Section 7.7)
	"The DECISION field provides the outcome, as determined by the NC, of the
	Create or Update PQoS Flow request from the Entry Node. Table 3-49 shows
	meanings for all possible values of this field defined in this MoCA specification."
	(MoCA 1.1, Section 3.17.2.3.1. See also MoCA 2.0, Section 7.7)
	"If any one of the bandwidth-related criteria fails, then the NC Node MUST
	calculate the MAX_PEAK_DATA_RATE value in the payload of the Request
	frame, which is the maximum allowable PQoS Flow T_PEAK_DATA_RATE that
	would have succeeded given T_PACKET_SIZE."
	(MoCA 1.1, Section 3.17.2.3.1. See also MoCA 2.0, Section 7.7)